

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-108-19
Relating to Certification of New Heavy-Duty Engines and Vehicles

DEERE POWER SYSTEMS GROUP OF DEERE & COMPANY

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102 and 43103 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following 2000 model-year Deere Power Systems Group of Deere & Company diesel-cycle engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

Fuel Type: Compressed Natural Gas (CNG)

| <u>Engine Family</u> | <u>Engine Displacement Liters (Cubic Inches)</u> | <u>Exhaust Emission Control Systems and Special Features</u> |
|--------------------------|--|---|
| YJDXH08.1001 (450CNG) | 8.1 (497) | Engine Control Module Turbocharger Charge Air Cooler Oxygen Sensor |

Engine models and codes are listed on attachments.

The following are the certification exhaust emission standards for this engine family in gram per brake horsepower-hour:

| <u>Non-Methane Hydrocarbons</u> | <u>Carbon Monoxide</u> | <u>Nitrogen Oxides</u> | <u>Particulates</u> |
|-------------------------------------|----------------------------|----------------------------|---------------------|
| 1.2 | 15.5 | 4.0 | 0.10 |

The following are the certification exhaust emission values for this engine family in grams per brake horsepower-hour:

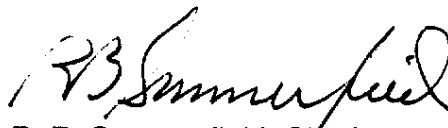
| <u>Non-Methane Hydrocarbons</u> | <u>Carbon Monoxide</u> | <u>Nitrogen Oxides</u> | <u>Particulates</u> |
|-------------------------------------|----------------------------|----------------------------|---------------------|
| 0.4 | 2.2 | 2.6 | 0.05 |

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Section 2035 et seq.).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order and attachments.

Executed at El Monte, California this 10th day of January 2000.

A handwritten signature in black ink, appearing to read "R. B. Summerfield", is written over the printed name.

R. B. Summerfield, Chief
Mobile Source Operations Division

Engine Model Summary Form

2-108-19

Manufacturer: Deere Power Systems Group of Deere & Company

Engine category: On-highway HDDE

EPA Engine Family: YJDXH08.1001

Mfr Family Name: 450CNG

Process Code: New Submission

| 1.Engine Code | 2.Engine Model | 3.BHP@RPM (SAE Gross) | 4.Fuel Rate: mm/stroke @ peak HP (for diesel only) | 5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only) | 6.Torque @ RPM (SEA Gross) | 7.Fuel Rate: mm/stroke @ peak torque | 8.Fuel Rate: (lbs/hr) @ peak torque | 9.Emission Control Device Per SAE J1930 |
|---------------|----------------|--------------------------|--|--|-------------------------------|--|--|--|
| 6081HFN01A | 225@2200 | 225@2200 | | 84@2200 | 800@1350 | | 64@1350 | ECM, TC, CAC, ODS |
| 6081HFN01B | 250@2200 | 250@2200 | | 84@2200 | 745@1350 | | 61@1350 | ECM, TC, CAC, ODS |